Flax and hemp straws constitute an attractive material, but all attempts to treat them on chemical lines have necessarily proved uneconomical. There is, however, every reason to expect that their successful exploitation, by the mechanical separation of their useful fibres in the districts where they are grown, is not far distant.

NOTES.

THE 200th anniversary of the birth of Albrecht von Haller—anatomist, physiologist, botanist, and poet—was celebrated on Friday of last week by the unveiling of a statue in his native city of Berne. The celebration was made the occasion of a public holiday, and was participated in by the State and municipal authorities, as well as by the professors and students of the University. It was also attended by delegates from numerous universities and learned societies, especially those with which Haller had been connected, the Royal Society being represented by Dr. Arthur Gamgee and the Royal Society of Edinburgh by Prof. Schäfer. An account of the proceedings will be given in a future number of NATURE.

WE are glad to notice that the King has appointed a Royal Commission to make an inventory of the ancient and historical monuments and constructions connected with or illustrative of the contemporary culture, civilisation, and conditions of life of the people in England from the earliest times to the year 1700, and to specify those which seem most worthy of preservation. The commission is constituted as follows:—Lord Burghclere (chairman); Earl of Plymouth, C.B.; Viscount Dillon; Lord Balcarres, M.P.; Sir H. H. Howorth, K.C.I.E., F.R.S.; Sir John F. F. Horner, K.C.V.O.; Mr. E. J. Horniman, M.P.; Dr. F. J. Haverfield, Camden professor of ancient history in the University of Oxford; Mr. L. Stokes, vice-president of the Royal Institute of British Architects; Mr. J. Fitzgerald, assistant secretary to H.M. Office of Works; and Mr J. G. N. Clift, hon. secretary to the British Archæological Association. The secretary of the commission is Mr. H. Duckworth, 35 Charles Street, Berkeley Square, W.

M. HENRI POINCARÉ has succeeded the late M. Henri Becquerel as president of the French technical commission on radio-telegraphy, appointed by a decree of March 5, 1907.

M. VIOLLE has been appointed president of the Bureau national scientifique et permanent des Poids et Mesures of Paris, in succession to the late M. Mascart.

PROF. T. L. WATSON, professor of economic geology in the University of Virginia, has been elected director of the Virginia Geological Survey, and Dr. J. S. Grasty has been appointed assistant geologist.

WE are requested to state that the annual "fungus foray" of the Essex Field Club will be held at Theydon Bois, Epping Forest, on Saturday, October 31. Mr. George Massee, of the Kew Herbarium, will act as principal referee, assisted by many botanists. Any botanist wishing to attend the meeting should write to Mr. W. Cole, hon. secretary, Buckhurst Hill, Essex, who will be glad to send programmes.

THE Gunning prize, 1908, having the value of about 40*l.*, will be awarded for an essay on "The Attitude of Science towards Miracles." The last day on which essays can be received for competition is March 31, 1909. Full particulars of the conditions can be obtained from the secretary of the Victoria Institute, 1 Adelphi Terrace House, London, W.C.

THE death is announced of Prof. Adolf Wüllner, at Aix-la-Chapelle, at the age of sixty-three years. Wüllner was known for his work on the specific heat of liquids and gases, vapour tension, refractive indices, and the variability with temperature and pressure of absorption and emission spectra. He was the author of a standard "Lehrbuch der Experimentalphysik," which reached a fifth edition.

THE death is announced of Mr. R. B. Smith in his seventieth year. Mr. Smith was formerly an assistant-master in Harrow School, and was a keen field naturalist. Among his published works is one entitled "Bird Life and Bird Lore," containing a number of interesting articles upon birds and their habits.

THE fourth annual fossil-hunting expedition of Amherst College, Massachusetts, has just returned from a successful visit to the plains of Wyoming and Nebraska. It has collected between 3000 and 4000 Indian relics, a full skeleton of an extinct species of camel, parts of a skeleton of a huge rhinoceros, the jaws of a prehistoric dog, and other bones of the progenitors of the horse, dog, camel, cat, deer, beaver, peccary, &c. The expedition was led by Prof. Frederick B. Loomis.

PROF. G. HELLMANN, president of the German Meteorological Society, asks us to announce that a prize of three thousand marks (150*l.*) is offered by the society for the best essay upon the meteorological results obtained in the exploration of the atmosphere by the international kite and balloon ascents. The prize is open to all nationalities, but the essays must be written in German, French, or English, and must be sent in before December 31, 1911. Further particulars can be obtained from Prof. G. Hellmann, Berlin W. 56, Schinkelplatz 6.

WE learn from the *Times* that an International Fire Prevention Conference was opened on October 14 at the Conservatoire of Arts and Crafts, Paris. The conference has had under consideration the formation of a permanent French fire and accidents prevention committee, resembling the British Fire Prevention Committee, and the equipment of a testing station near Paris. Numerous technical matters relating to fire protection have been discussed, including the standardisation of the preventive measures of the European countries.

A SHORT time ago we directed attention to an appeal for a fund, formed under the auspices of Mr. H. M. Taylor, F.R.S., of Trinity College, Cambridge, with the object of assisting in the publication of works of a scientific nature in embossed type for the use of the blind. The sum of about 525*l.* was subscribed, and the managers of the fund have agreed that the first three books in the publication of which they undertake to assist shall be "Sound and Music," by Mr. Sedley Taylor; "A Primer of Astronomy," by Sir Robert Ball, F.R.S.; and "An Introduction to Geology," by Dr. Marr, F.R.S.

THE council of the Royal College of Surgeons at its quarterly meeting on October 16 adopted resolutions which will in future admit women to the examinations of the conjoint examining board in England, to the examination for the diploma in public health, to the examinations for the fellowship, and to the examinations for the license in dental surgery. This decision brings to an end an agitation which has been carried on for some twelve or thirteen years. The next steps are to arrange the necessary alterations of the bye-laws and to secure the approval by the Privy Council and the Home Secretary of the revised bye-laws.

THE report for the year of the English branch of the League for the Preservation of Swiss Scenery was presented at the general meeting held at the Royal Society of Arts on October 21. The report shows that there has been no slackening of the league's efforts in the direction of securing the preservation of the beauties of the Alps. The society has caused the circulation of a petition against the Matterhorn Railway, and has obtained nearly 70,000 signatures to the protest. Steps have been taken to formulate a scheme of protected areas. Opposition is to be offered to the proposed mode of constructing the railway through the Schöllenen Gorge by iron bridges, which would destroy the charm of the Teufelsbrücke. It is proposed, if possible, to prevent the sale abroad of the important collection at St. Moritz, illustrative of Swiss life and culture during four centuries, known as the Engadiner Museum. The league is keeping itself informed of the concessions applied for, and taking all possible steps to prevent needless and unprofitable interference with the grandeur of Swiss mountain scenery.

WE regret to see the announcement that Dr. Daniel C. Gilman, first president of the Johns Hopkins University, Baltimore, and afterwards head of the Carnegie Institute, Washington, died on October 14 at Norwich, Connecticut, at seventy-seven years of age. Educated first at Yale and then at Cambridge and Berlin, he was in 1856 appointed professor of geography in Yale University. He became president of the University of California in 1872. Five years later he went in the same capacity to the Johns Hopkins University. His work there, which lasted until 1901, secured him a place among the foremost American educators. In 1891 Dr. Gilman left Baltimore for Washington, where he spent three years organising the Carnegie Institute. In addition to the work of his various university appointments, Dr. Gilman was appointed by President Cleveland to act as commissioner in the Venezuela and British Guiana boundary dispute. He acted also as executive officer of the Geological Survey of Maryland. He was president of the American Oriental Society, and a prominent member of various learned societies and institutions. His many publications include a memoir of Dana the geologist, and "Science and Letters in Yale University."

WE regret to see the announcement of the death of Lieut.-Colonel Charles Thomas Bingham, late Bengal Staff Corps and Conservator of Forests, Burma, in his sixty-first year. During his long residence in India and Burma, he devoted much of his attention to natural history, and formed large collections, which he distributed liberally among museums and private naturalists, both in India and England, and many recent works on the natural history of India and Burma were largely based on these collections. Colonel Bingham interested himself greatly in all branches of natural history, and his earliest papers on the subject which we find noticed relate to birds, and were published in "Stray Feathers" from 1876–81. In some of these early papers he was assisted by the late Allan Hume. At a later period Colonel Bingham gave most of his time and attention to insects, especially Hymenoptera and Lepidoptera. From 1894 onwards a long series of important papers on Hymenoptera, chiefly those of the Indian region, appeared in various journals, and in 1897 and 1903 two volumes on the Hymenoptera of India, Ceylon, and Burma in the "Fauna of British India." These included the wasps, bees, ants, and cuckoo-wasps. On Colonel Bingham's final retirement from his official work he settled in London, devoting all his time and attention to his two favourite authors. In 1905 appeared the first volume on butterflies in the "Fauna of British India," and when, shortly afterwards, Dr. Blanford died, he was succeeded by Colonel Bingham as general editor of the series. In 1907 appeared the second volume on butterflies, and Colonel Bingham was engaged in the preparation of the third and concluding volume at the time of his death. He will be widely regretted by all who knew him, not only as a great naturalist, but also as a dear and valued friend.

THE inaugural meeting of the winter session of the London School of Tropical Medicine was held at the Royal Society of Medicine on October 14, under the presidency of Lord Crewe. The secretary reported that 849 students had passed through the school since its opening in 1899. Lord Crewe in his address alluded to the part taken by Mr. Chamberlain in the foundation of the school, to the interest of the Colonial Office in the schools of tropical medicine, and the important work these were doing for the State in fighting the scourge of disease in tropical countries. Sir Clifford Allbutt also addressed the meeting, dealing with variation in disease, the distribution of disease by traffic, and the importance in infection of the reaction of the host towards the parasite. Sir Patrick Manson, in moving a vote of thanks to the chairman and Sir Clifford Allbutt, said that the profession as a whole has had an enormous leavening by the students of tropical medicine. There is great difficulty in imparting even to the post-graduate mind anything like a knowledge of tropical medicine by a three months' course. Nothing is so gratifying as the support of the Government for the school. There is now a scheme on foot to attack one of the gravest medical problems affecting the inhabitants of the tropical world, namely, ankylostomiasis, a disease which, in consequence of the enormous number of people affected, is one of prime importance.

MANY naturalists will regret to learn that Mr. W. Saville-Kent died at Bournemouth, on October 11, from heart disease following an operation. Mr. Saville-Kent will perhaps be best remembered by his sumptuous work on the Great Barrier Reef of Australia, published in 1893. The remarkable photographs reproduced in that volume were unique in their beauty, and with the text they provided the scientific world with extensive and accurate information about coral reefs as represented by the largest existing coral structure. Mr. Saville-Kent also devoted great attention to oysters and oyster fisheries of Queensland, and in his presidential address to the Royal Society of Queensland in 1890 he urged the establishment of a well-appointed biological station on Thursday Island, which is the central depôt of the Torres Straits pearl and pearl-shell, and the *bêche-de-mer*, fisheries. In 1892 he exhibited at the Royal Society his photographs and colour sketches of coral reefs, coral animals, and the marine fauna generally of the Great Barrier district of Australia. He showed at the same time a pearl of fine quality and considerable size that he had caused the mother-of-pearl shell animal to produce by means of a delicately manipulated operation on the living animal. While engaged in 1893 as Commissioner of Fisheries to the Government of Western Australia, Mr. Saville-Kent sent to London a large collection of the stony corals peculiar to the

Australian coast-line. These specimens, added to the extensive series indigenous to the northern and eastern districts of Australia previously contributed by him to the Natural History Museum, constitute the most complete collection of Australian Madreporaria yet brought together. We understand that in recent years Mr. Saville-Kent's attention was given to the artificial cultivation of pearls in the large pearl-oyster.

OCTOBER 17 was the 300th anniversary of the election of Francis Bacon as treasurer of Gray's Inn. The tercentenary celebration took the form of a luncheon at the inn, when the Benchers entertained a party of distinguished guests. The first night of term, November 2, is to be observed by the members of the inn as a Bacon anniversary, and later a marble statue of Bacon is to be erected in one of the open spaces of the inn. Mr. Duke, K.C., the treasurer, presided at the luncheon, and the American Ambassador was the principal guest. Among the party were Sir C. Allbutt, F.R.S., Sir Robert Ball, F.R.S., Sir J. Dewar, F.R.S., Prof. Frankland, F.R.S., Sir W. Huggins, K.C.B., O.M., F.R.S., Sir William Ramsay, K.C.B., F.R.S., Sir Henry Roscoe, F.R.S., Lord Strathcona, F.R.S., and other men of science. In proposing the toast to "The Immortal Memory of Francis Bacon," Mr. Duke dwelt at greatest length upon Bacon's connection with the legal profession, though he referred to his contributions to science and literature. The American Ambassador, in responding to the toast of "Our Guests," said:—"No man ever held a more extraordinary position than Bacon. It had been given to very few men in the world to change the whole intellectual current and tendency of their age and of succeeding ages. The whole effect of what had been called the Baconian philosophy was, according to his own statement of it, to look for fruit. It was essentially practical; and one of his acutest critics had said of him, his philosophy began in observation and it ended in words."

PARTICULARS of the auroral display on September 29, as seen by Mr. J. H. Elgie from Roundhay Park, Leeds, are given by him in *T.P.'s Weekly* of October 15. "Shortly before nine o'clock a fan-shaped series of auroral streamers appeared under the western side of Boötes and the tail of the Bear. One magnificently defined shaft of light immersed Cor Caroli, which glittered vertically under the star at the tip of the Bear's tail. Cor Caroli was almost extinguished. For about an hour after that the northern sky remained quiescent, but that mystical glow continued. So light, indeed, was it, that at 9.25 I could distinctly see the time by my watch. The last of the display occurred at five minutes past ten, when a very beautiful streamer pierced Corona Borealis, and when it had died out the luminous suffusion died out with it." The display was referred to in a note which appeared in NATURE of October 8 (p. 575) upon two magnetic storms observed at the National Physical Laboratory.

A COMPLETE change of weather has set in over the British Isles during the past week, and the temperature has fallen lower than at any time during the present autumn, the day and night readings towards the close of the period being in fair agreement with the average conditions for the time of year. For the first half of the present month the mean temperature in London was about 10° above the normal, and other parts of the country were similarly warm. Rain has now fallen in most parts of the United Kingdom, but the remainder of the month will have to be exceedingly wet if October is to have its normal rainfall. In London the aggregate measurement of rain for the forty-two days from September 4 is 0·51 inch, whereas the average for October is 2·73 inches. At Spurn Head the total rainfall this month to October 20 is 0·16 inch, whilst the average is 2·26 inches. At Nottingham the aggregate to October 20 is 0·28 inch, at Dover 0·31 inch, and at Jersey 0·38 inch. A region of high barometer readings has maintained a fairly fixed position over north-west Europe, and this has fended off the inroads of the moving disturbances from the Atlantic, compelling them to follow a more northerly track than usual. The type of weather, however, seems to be gradually assuming the conditions normal to autumn, and lower temperatures may now occur at any time.

THE celebration of the tercentenary of the birth of Torricelli, to which we referred on July 9, ended on October 15. The following notes may be of interest to some of our readers; for amplification of them we may refer to meteorological text-books, and more particularly to Prof. Hellmann's article on the origin of meteorological observations and instruments in *Himmel und Erde* (vol. ii., parts iii. and iv.). Torricelli, the discoverer of the "Torricellian tube," afterwards called the barometer by the Hon. R. Boyle, received his first education at Faenza, and continued it at Rome. Some of his works on mechanics having attracted the attention of Galileo, the latter invited him to Florence, where he became the pupil of that great master. The constructors of a pump for the Duke of Florence having applied to Galileo for an explanation of the reason of the water not rising higher than about 32 feet, his cynical reply was that "nature abhors a vacuum"; but this reply apparently did not satisfy him. After Galileo's death Torricelli took up the subject, and assuming that the real cause of the water rising was the pressure of the air, he hit upon the idea of substituting mercury for water, and communicated his plan to his friend Viviani, who first carried out the experiment in 1643, and obtained similar results (allowing for difference of density). After this experiment Torricelli immediately declared the true cause of the phenomenon; in 1644 he also stated that the instrument would show certain variations in the weight of the air. The actual experiment of the decrease of pressure with altitude was made by Perrier on the Puy de Dôme in 1648, at the request of Pascal. Apparently Torricelli, who died in 1647, was too much occupied with his mathematical studies to take up the ultimate improvement of the instrument, which at that time had only an arbitrary scale.

IN the October number of *British Birds* reference is made to the occurrence in Romney Marsh, at no very great distance from Lydd, of three American kill-deer plover in April last. All were shot. These bring the number of British-killed specimens to six; there is no reason to doubt that these were truly wild birds.

FISHES from Hawaii and Fiji form the subject of a paper by Dr. D. S. Jordan and Miss Dickerson published as No. 1625 of the Proceedings of the U.S. National Museum. A flying-fish is described as new, while *Scomber brachysomus* is made the type of the new genus Rastrelliger.

AN interesting communication on the systematic position of the Palæozoic brachiopods of the genus Camarophorella is given by Mr. J. E. Hyde in the Proceedings of the Boston Society of Natural History (vol. xxxiv., No. 3). Hitherto the single known representative of the genus has been associated with Pentamerus, but the discovery of a second species enables the author to state that this is incorrect, its real affinities being with Meristella.

IN the annual report of the Sydney Technological Museum for 1906, a copy of which has just reached us, attention is specially directed to the building stones and ornamental marbles of New South Wales, which are stated to be fully equal to those of any other part of the world, although at present only a small portion of them is worked. A large series of specimens is exhibited in the museum. The report also refers to the exhibits sent by the Sydney Museum to the New Zealand International Exhibition of 1906.

ALMOST entirely new ground appears to have been covered, so far as the alcyonarian zoophytes are concerned, by the dredging of the U.S. Fisheries steamer *Albatross* in Hawaiian waters in 1902. According to an account by Prof. C. C. Nutting, forming No. 1624 of the Proceedings of the U.S. National Museum, out of sixty-eight species of these organisms collected in those waters during the cruise, no fewer than thirty-nine proved to be new. The order Gorgonacea, as might have been expected, was the most abundantly represented, comprising forty-seven species, while the Alcyonacea, which are chiefly Arctic, although abundant in Australian waters, comprised but five.

THE agricultural departments in the various sugar-producing countries are doing a great amount of work on the sugar-cane, and much confusion has arisen in the nomenclature of the many varieties now in cultivation, so that two stations may be working on one and the same variety under totally different names. By way of directing attention to this state of affairs Messrs. Deerr and Eckart recently issued a report from the experiment station of the Hawaiian Sugar Planters' Association giving lists of synonymous canes and discussing the origin of some of the better known varieties. There are numerous references to the literature of the subject, and the report promises to serve a very useful purpose.

IN Bulletin No. 66 of the Agricultural Experiment Station of New Mexico, attention is directed to a very important factor in connection with the fertility of the soil in countries where intense farming is not yet practised. It is well known that excessive cattle grazing is injurious for several reasons. The herbage deteriorates in value. The kinds of grass or other plants preferred by the animals get eaten before they have time to seed, and therefore die out, leaving only less valuable plants. The soil becomes so compacted by the treading of the animals, especially in the neighbourhood of the drinking places, that rain-water will not sink in, but flows over the surface in time of storm. Direction is given to the flow by the paths trodden by the animals, and from these small beginnings a great amount of land erosion may take place, with much consequent injury to the agricultural prospects of the country.

A PAPER of considerable interest dealing with the embryology of *Gnetum gnemon* is contributed by Prof. J. M. Coulter to the *Botanical Gazette* (July). The author fails to confirm the development, as described by Lotsy, of a compact tissue in the antipodal end of the embryo-sac, but observed a definite pavement tissue below the sac. The paper also contains details that were wanting of the early stages of the embryo. A long branched suspensor-like development of the fertilised ovum is formed, at one end of which a cell is cut off that gives rise to the embryo.

ARISING out of his extensive studies of African floras, in the course of which he has had occasion to note very numerous plant associations, Dr. Engler has sought to devise a general system of symbols for indicating plant formations in tropical and subtropical countries on maps or charts. The colour schemes present the most fundamental and important features. Generally, brown is used to signify saline habitats, green represents verdure and moisture, yellow the partially dry localities, red infers a high altitude, and black signs indicate very dry conditions. Dr. Engler's explanation, together with a chart of his proposed symbols, is published in his *Botanische Jahrbücher* (vol. xli., part v.).

IN the *Economic Journal* for September, under the title "Appreciations of Mathematical Theories," Prof. F. Y. Edgeworth discusses certain mathematical aspects of the much debated problem of "free trade" in a criticism of previous papers and reviews by Mr. Bickerdyke.

UNDER the auspices of the faculty of science of the University of Rome, a movement was set on foot to commemorate the contributions to physical science of Prof. Alfonso Sella, who died on November 25 of last year. A marble bust of Prof. Sella, by M. Ezekiel, was unveiled on June 9 of this year in the presence of a large number of subscribers and representatives of different universities, and a small memorial pamphlet has been published (Rome: G. Bertero and Co.) containing an account of the proceedings and a list of Sella's works.

IN issuing a supplementary list of drawing cases, &c., Mr. W. H. Harling, Finsbury Pavement, London, E.C., has taken the opportunity to send out a pamphlet dealing with slide rules. The brochure, in addition to giving prices and illustrations of instruments, explains the theory and use of the slide rule, and should prove of service to purchasers of this useful aid to calculation.

WE have received a very complete catalogue of bacteriological apparatus, surgical appliances, and hospital sundries from Messrs. Townson and Mercer. Many of the illustrations of the more complicated pieces of apparatus are accompanied by full descriptions and practical hints for using the instruments. In fact, some pages, like those concerned with biological incubators, read like parts of a laboratory manual. The catalogue, which is well produced, is arranged in such a manner that reference to it is easy and expeditious.

MESSRS. WRATTEN AND WAINWRIGHT, LTD., of Croydon, have issued a descriptive list of photographic dry plates, filters, and safelight screens they are prepared to supply. The catalogue directs special attention to the new X-ray plate, and in describing the many kinds of plates manufactured by the firm gives many useful, practical hints to enable photographers to secure the best results. Among other photographic requisites dealt with in the list may be mentioned screens, both orthochromatic and contrast; a series of safelights to give the greatest possible intensity of light with reasonable safety; and dark-room lamps.

A NEW list of meteorological instruments has been published by Messrs. C. F. Casella and Co., Rochester Row, S.W. Among new instruments described in the catalogue are some interesting forms of rain gauges. The "insulated Snowdon rain gauge" is of simple construction, and in it provision is made to protect the collected rain from freezing in winter and evaporation in summer. The "totalising rain gauge" is of the self-registering kind, and the principle underlying its construction is that of the tilting bucket, and it is claimed that a great advance has been made in the registering mechanism. The catalogue also includes a description of "Mountain's recording rain gauge," and particulars of balloons, kites, and accessories for the investigation of the upper atmosphere.